(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 0 875 843 A1

# (12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
**04.11.1998 Bulletin 1998/45**

(51) Int Cl.[6]: **G06F 17/30**

(21) Application number: **98302857.2**

(22) Date of filing: **14.04.1998**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE**
Designated Extension States:
**AL LT LV MK RO SI**

(30) Priority: **14.04.1997 US 837157**

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## (54) Method and apparatus for inserting advertisements and the like in a data stream of an internetworked client for display during the void time

(57) An improved hypertext viewing system provides inserts to a user at a browser client to view while a requested page loads. The inserts can be any material, but one type of material being animated advertisements. With animated ads, the ad can be downloaded in much less time than it takes to show the ad. This is preferred, because it frees the network to be used to download a requested page between the time that the ad finished downloading and finishes playing. Of course, where the network is much faster than the source of the requested page, such a delay is less of an issue.

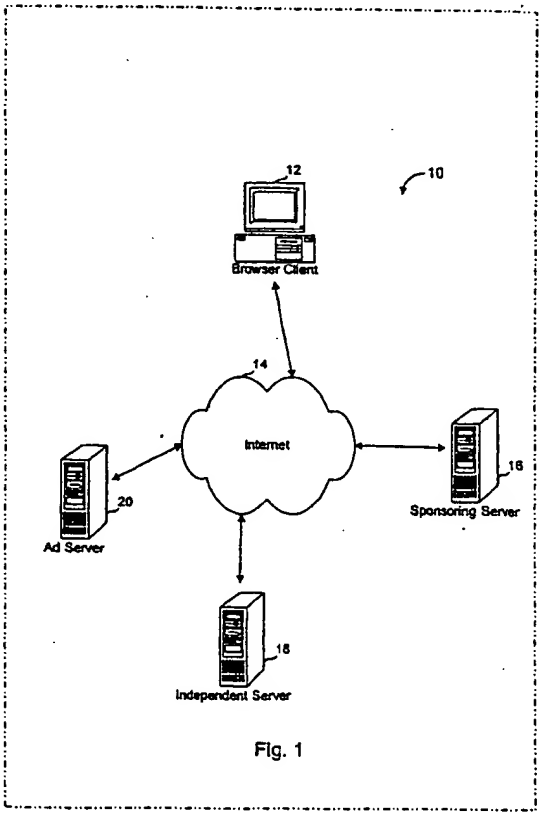


Fig. 1

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FIG. 4(a)-(b) are examples of HTML pages as might be displayed on a client browser display.
FIG. 5 is a view of an HTML page representing a Java applet for beginning an ad according to the present invention.
FIG. 6 is a view of an HTML page for pushing a browser to a target page.
FIG. 7 is a view of an HTML page representing a Java application starter page.
FIG. 8 is a view of a browser display with an ad playing while a page is being loaded.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention is usable in many different environments, not all of which are described here. One environment which is described here is shown in FIG. 1. There, an internetworked browsing system 10 is shown, in which a browser client 12 is coupled to the global Internet 14 in a conventional manner. Several servers (a sponsoring server 16, an independent server 18 and an ad server 20) are also shown connected to the Internet 14.

Browser client 12 can be a conventional personal computer (such as those manufactured by Apple Computer, Sun Microsystems and personal computers running the Windows® operating system developed by Microsoft Corporation) running an Internet browser program as is well known in the art. While the examples used herein will refer to a Java□ language compatible browser which can run Java applets and Java applications, it should be understood that many other equivalent configurations could be used as well, such as the ActiveX□ API technology developed by Microsoft Corporation. Browser client 12 is coupled to Internet 14 using a modem, ISDN connection, network card, or the like to communication using the well known Transport Control Protocol and Internet Protocol ("TCP/IP"). When browsing, browser client 12 generally communicates with servers via Internet 14 using HyperText Transport Protocol ("HTTP") to transfer commands, requests, data and HyperText Markup Language ("HTML") documents.

Three types of servers are shown in FIG. 1. Generally, these servers serve (deliver) HTML pages to clients upon request. These pages (or "Web pages") could be documents retrieved from a storage device at the server or the pages could by dynamically generated pages based on variables stored in tables or associated with the state of a particular client or the server. A collection of pages, logically oriented as a collection on a given server or part of a server (or even physically distributed over multiple servers) are often referred to as a site, or Web site, in reference to the World Wide Web.

It should be understood that the type of a server is not fixed, but may change from time to time, and from page to page. Sponsoring server 16 is so named because it serves pages in cooperation with the operator of ad server 20. Independent server 18 is so named because it need not be aware of ad server 20 to participate in the processes described herein. Ad server 20 is so named because it serves ads which are presented to the user of browser client 12 during void times. However, it should be understood that ad server 20 can just as well serve non-ad materials, such as void time entertainment and the like.

The roles of the different types of servers will now be explained with reference to FIG. 3, following an explanation of the conventional process for browsing the Web in connection with FIG. 2.

FIG. 2 is a flowchart showing the steps of a typical browsing process, illustrating what is shown on a client browser display, what actions are taken by the browser client software, what messages are passed over Internet 14 between the client browser and a target server, and the actions taken by the target server. Each step in FIG. 2 is labeled with a step number (S1, S2, etc.) with corresponding references in the following description.

To begin, the client browser loads a default or selected page (S1). Depending on the browser, this could be a page specified as a start up parameter, a home page specified in a configuration file, the default start up page specified by the writer of the browser software, or the like. However, specified, the process of interacting with the user begins with the client browser displaying the page at on the browser display (S2). The page is displayed with links set apart from the rest of the text. An example of such a page is "Page A" 40 shown in FIG. 4(a) with a link 42 underlined to set it apart from the rest of the text. The HTML text contains the text snippet:

Click <a href="http://site/file">here</a> to go to Page B

which displays as:

Click here to go to Page B

where *site* is replaced with the server serving Page B and *file* is the name given to Page B on server site. The site and file are not displayed in the display, but are saved by the client browser in a reference table. When the user clicks a mouse cursor on the link (S3), or otherwise specifies the link, the browser client detects the selection and makes a request to the target server (S4) for the page selected by the user. The Target server receives the request (S5) and begins to process the page request (S6).

If the network connection between the client and the Internet, the server's connection, or the path through the Internet are slow, this process does not begin right away. When the server is done processing the page request, it sends the requested page to the client (S7) over the Internet and the client receives the page (S8) and displays it to the user (S9). An exemplary page 44 is shown in FIG. 4(b). If the target server is slow or overloaded, the server delay adds to the transit delay. Since this delay is often quite long, users might come to believe that the client machine of

specified in relatively few bits, thus allowing the data for the animation to be downloaded in much less time than the time it takes to play the ad.

The above description is illustrative and not restrictive. Many variations of the invention will become apparent to those of skill in the art upon review of this disclosure. The scope of the invention should, therefore, be determined not with reference to the above description, but instead should be determined with r ference to the appended claims along with their full scope of equivalents.

```
    public void paint(Graphics g) {
    g.drawString("This is frame " + frameNumber, 5, 15);
    }
}
```

```
            g.drawString("This is frame " + frameNumber, 5, 15);
        }
    }
}
```

## Claims

1. The method of browsing a hypertext web, wherein a nonzero time elapses between the request for a target page and the presentation of the target page, the method comprising the steps of:

   sending a page request from a browser client to an intermediate server;
   after receipt of the request by the intermediate server, sending a data block representing an intermediate presentation to the browser client;
   presenting the intermediate presentation on a display coupled to the browser client; and
   prior to the completion of the intermediate presentation, requesting the target page from the target server to the browser-client, for display on the display.

2. The method of claim 1, wherein the step of presenting an intermediate presentation is a step of presenting an advertisement.

3. The method of claim 2, wherein the advertisement is a selected one of a plurality of advertisements and the advertisement selected is a function of a browser type, client network address, or demographic information about the user.

4. The method of claim 1, wherein the presentation is a an animation.

5. The method of claim 1, wherein the step of requesting the target page comprises the steps of:

   sending a reference to the target page from the intermediate server to the client browser; and
   sending the reference from the client browser to a target server serving the target page.

6. The method of browsing a hypertext web, wherein a nonzero time elapses between the request for a target page and the presentation of the target page, the method comprising the steps of:

   sending a page request from a browser client to an intermediate server;
   after receipt of the request by the intermediate server, sending a data block representing an intermediate presentation to the browser client;
   presenting the intermediate presentation on a display coupled to the browser client;
   substantially simultaneously with the sending of the data block, sending a request for the target page to the target server; and
   sending the requested page from the target server to the browser client, for display on the display.

7. The method of claim 6, wherein the step of sending a request for the target page is a step of sending a request from the intermediate server.

8. The method of claim 6, wherein the step of sending a request for the target page is a step of sending a request from the client browser.

9. The method of claim 8, wherein the step of sending a request from the client browser is preceded by a step of sending the request from the intermediate server to the client browser.

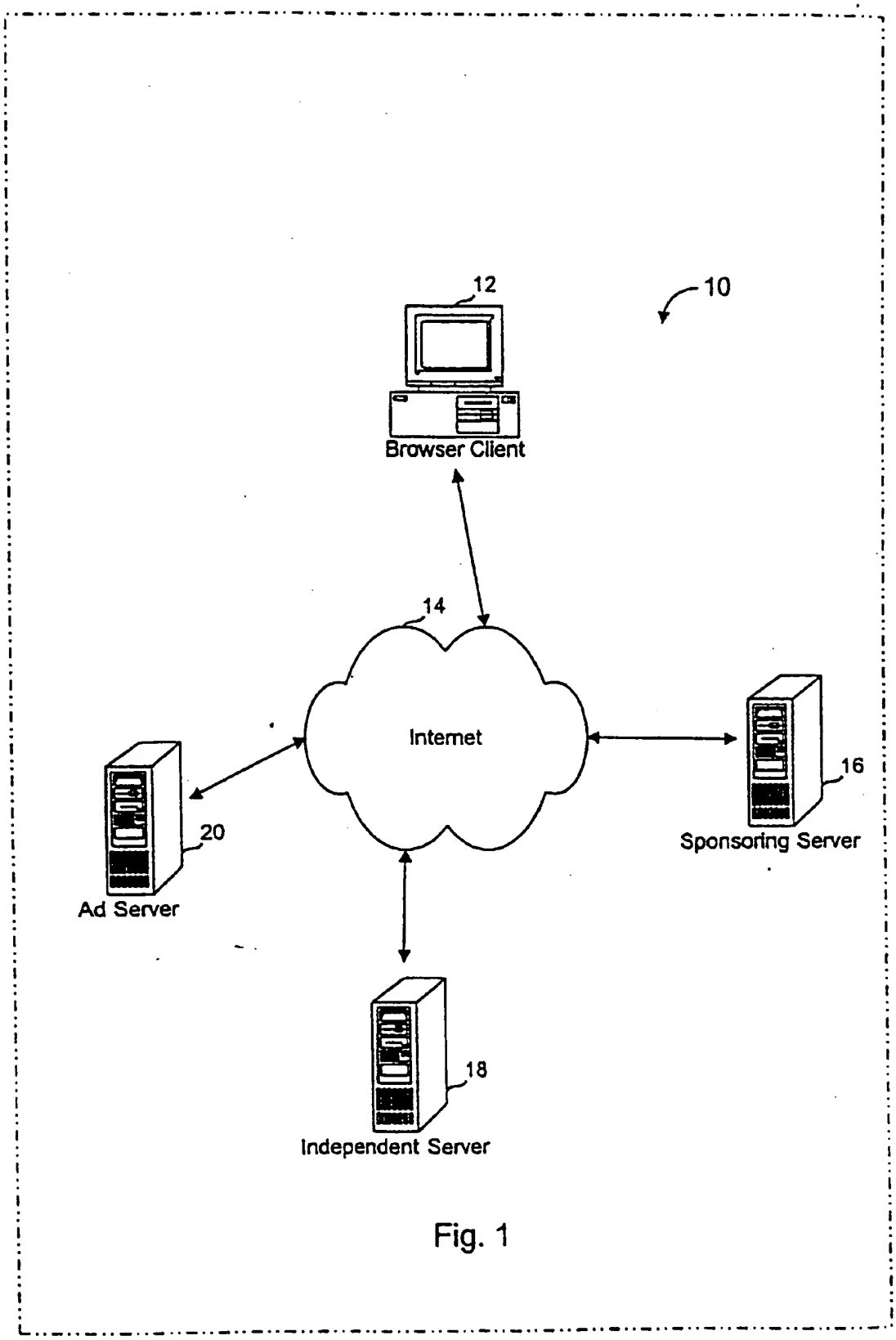
12
10
Browser Client
14
Internet
16
Sponsoring Server
20
Ad Server
18
Independent Server

Fig. 1

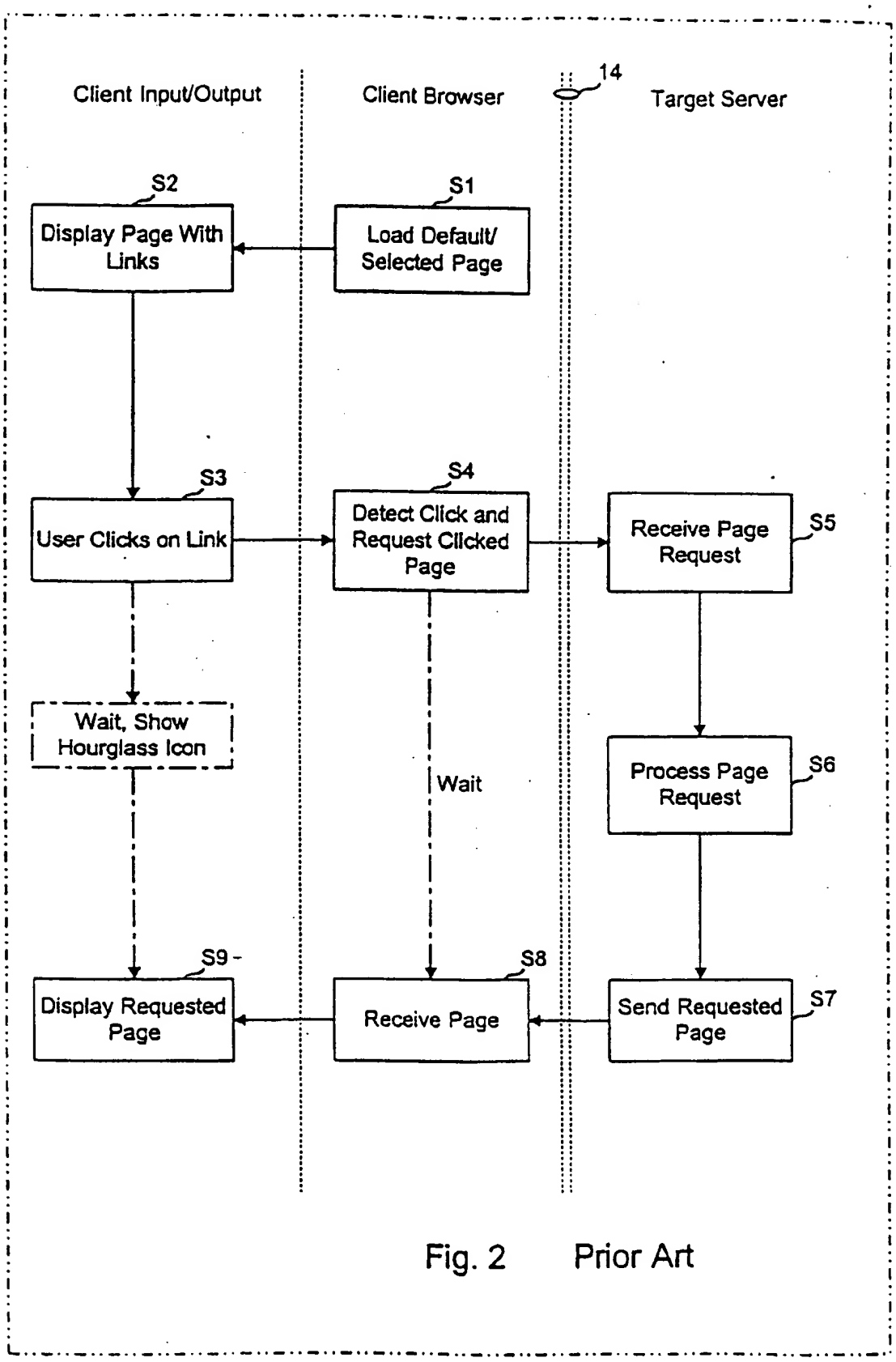


Fig. 2 Prior Art

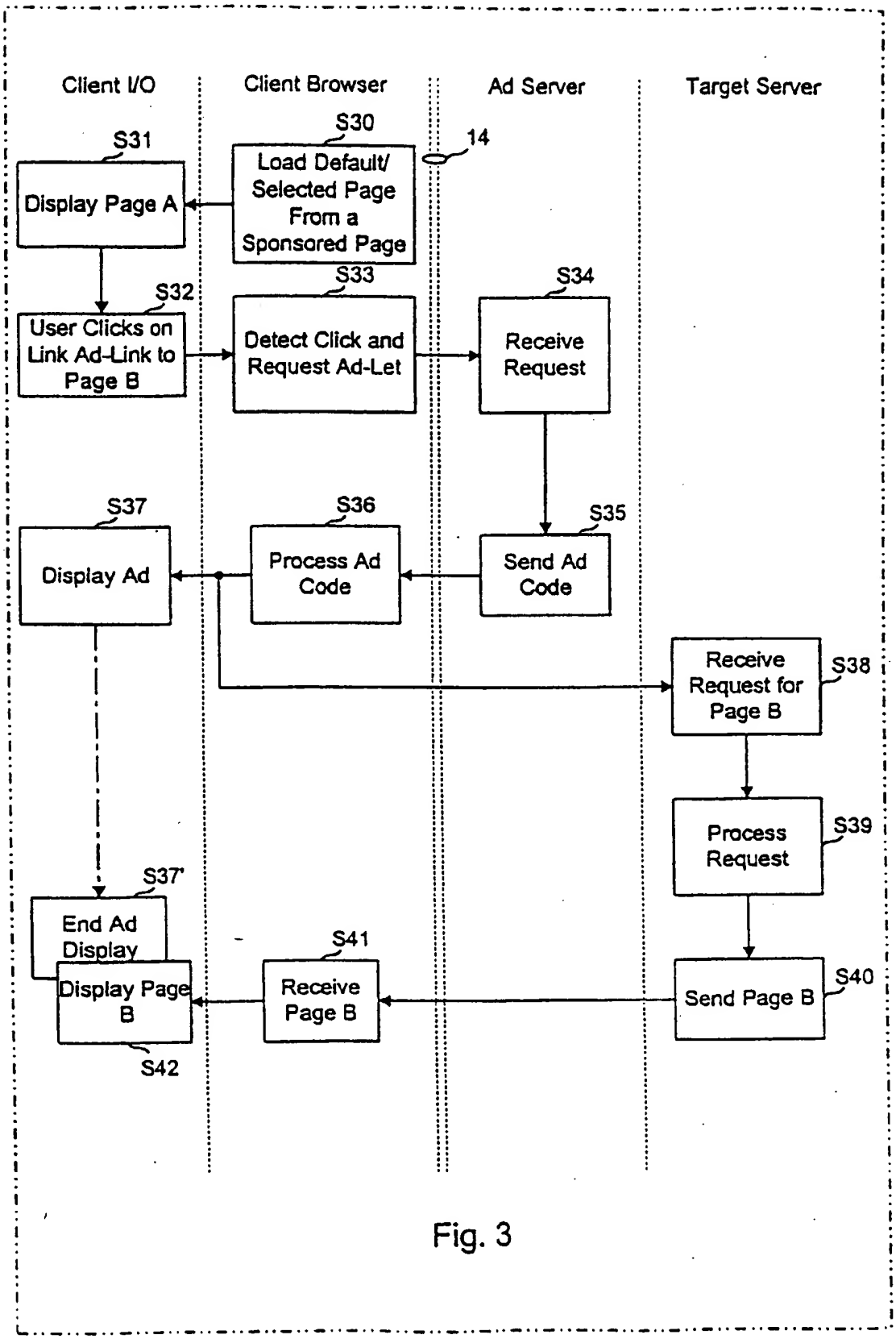
Client I/O
Client Browser
Ad Server
Target Server
S30
14
S31
Load Default/ Selected Page From a Sponsored Page
Display Page A
S32
S33
S34
User Clicks on Link Ad-Link to Page B
Detect Click and Request Ad-Let
Receive Request
S37
S36
S35
Display Ad
Process Ad Code
Send Ad Code
Receive Request for Page B
S38
Process Request
S39
S37'
End Ad Display
S41
Display Page B
Receive Page B
Send Page B
S40
S42

Fig. 3

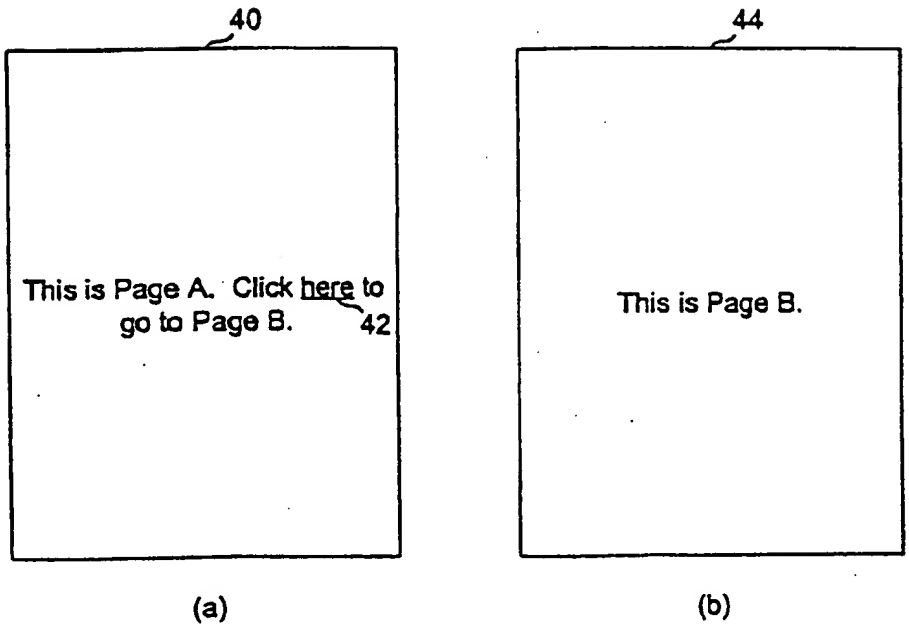
40
This is Page A. Click here to go to Page B.
42
(a)
44
This is Page B.
(b)

Fig. 4

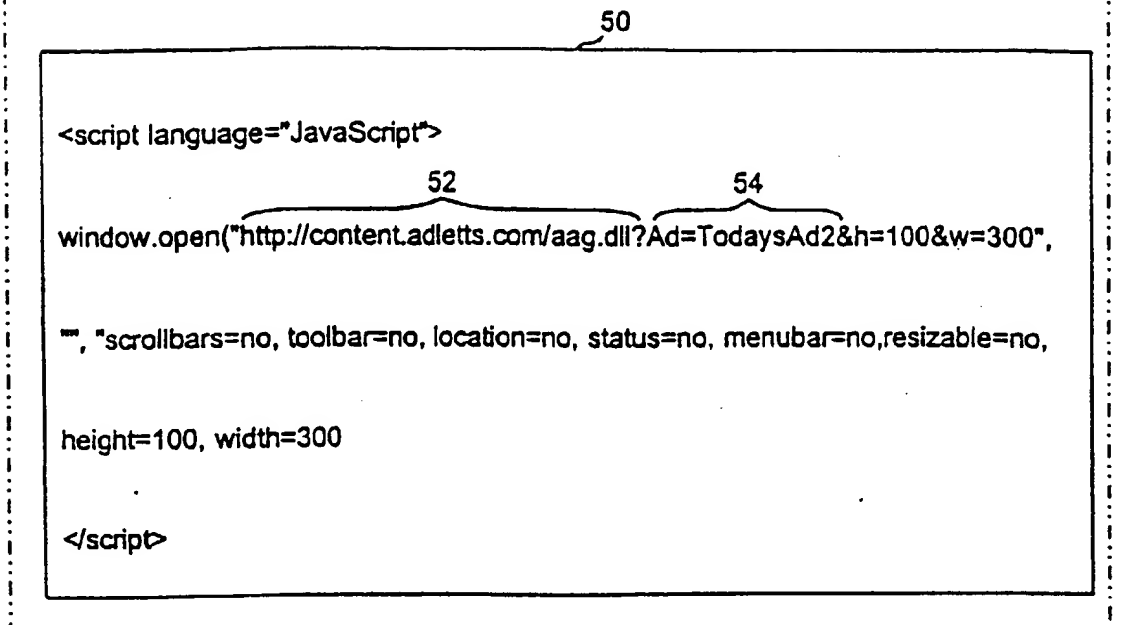


Fig. 5

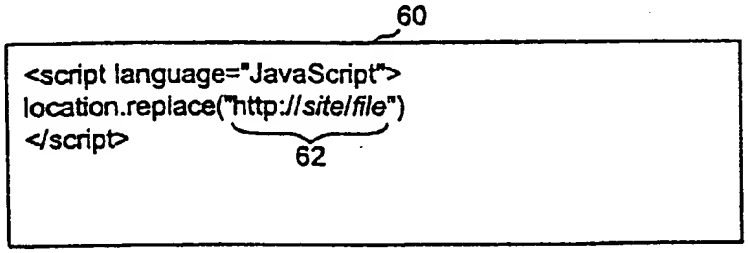


Fig. 6

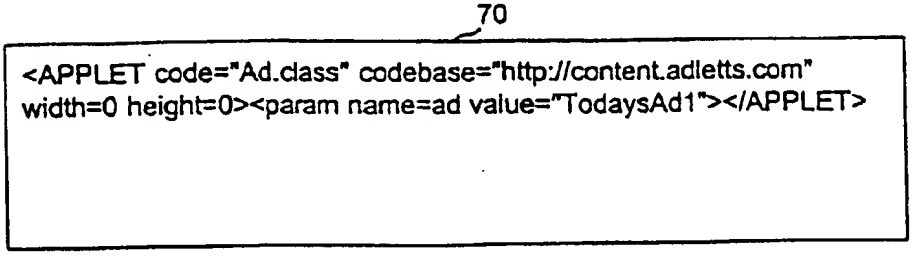


Fig. 7

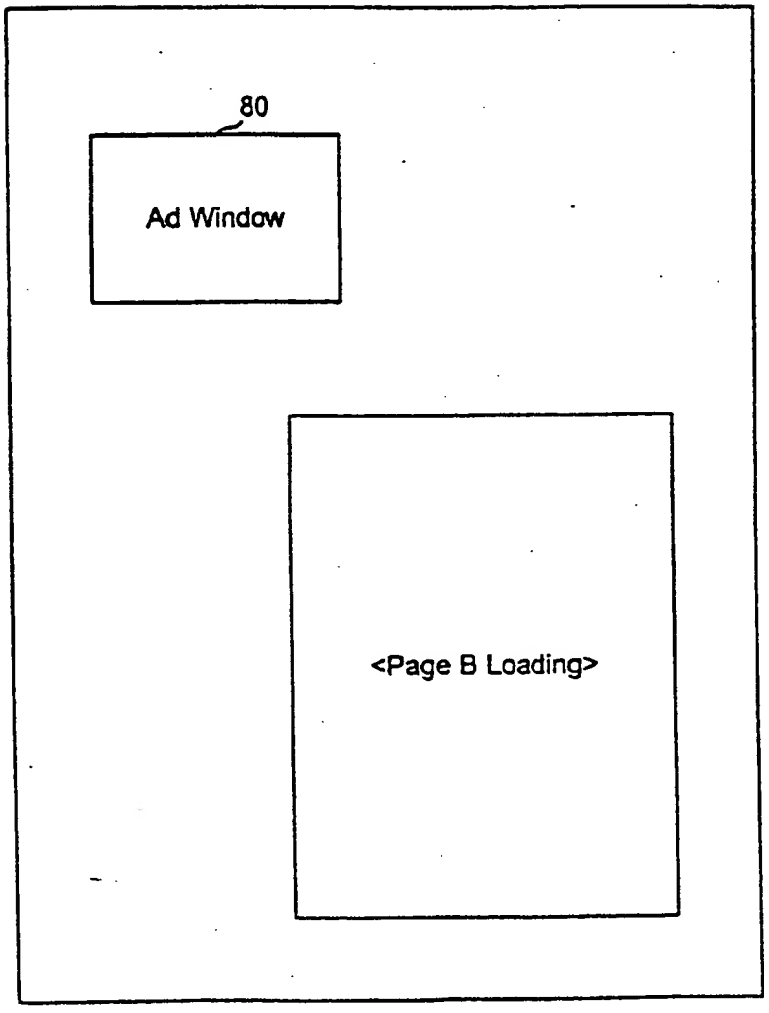


Fig. 8

European Patent Office

# EUROPEAN SEARCH REPORT

Application Number
EP 98 30 2857

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.6) |
|---|---|---|---|
| A | US 5 572 643 A (JUDSON DAVID H) 5 November 1996<br>* column 1, line 59 - column 3, line 2 * | 1,6 | G06F17/30 |
| A | DATABASE INSPEC<br>INSTITUTE OF ELECTRICAL ENGINEERS, STEVENAGE, GB<br>Inspec No. AN5306185,<br>XP002067508<br>* abstract *<br>& KOHDA Y. ET AL.: "Ubiquitous advertising on the WWW: merging advertisement on the browser"<br>FIFTH INT. WORLD WIDE WEB CONF. PUB. COMPUT. NETW. ISDN SYST. ISSN 0169-7552, vol. 28, no. 7-11, 6 - 1 May 1996, PARIS, pages 1493-1499, | 1,6 | |
| A | PATENT ABSTRACTS OF JAPAN<br>vol. 097, no. 008, 29 August 1997<br>& JP 09 091215 A (TOSHIBA CORP), 4 April 1997,<br>* abstract * | 1,6 | TECHNICAL FIELDS SEARCHED (Int.Cl.6)<br>G06F |
| A | WO 97 07656 A (BACKWEB) 6 March 1997<br>* abstract; figure 4 * | 1,6 | |
| A | WO 96 30864 A (FUTUREVISION OF AMERICA CORP.) 3 October 1996<br>* page 4, line 12 - page 5, line 37; figure 1 * | 1,6 | |

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| BERLIN | 22 June 1998 | Deane, E |

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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& : member of the same patent family, corresponding document

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